**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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| In re Application of: Alexander A. SHER et al. | Confirmation No.: 7330 |
| Patent No.: 7,147,131 B2 | Application No.: 10/727,532 |
| Patent Date: December 12, 2006 | Filing Date: December 5, 2003 |
| For: METHOD AND SYSTEM FOR DISPENSING HOT AND COLD BEVERAGES FROM LIQUID CONCENTRATES | Attorney Docket No.: 88265-7417 |

**REQUEST FOR CERTIFICATE OF CORRECTION**
**UNDER 37 C.F.R. §§ 1.322 and 1.323**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Patentees hereby respectfully request the issuance of a Certificate of Correction in connection with the above-identified patent. The corrections are listed on the attached Form PTO-1050. The corrections requested are as follows:

Column 16:

Line 8 (claim 10, line 3), after "between about 7" delete "an" and insert -- and --. This change is requested merely to correct an inadvertent typographical error.

Column 17:

Line 27 (claim 28, line 2), after "fluid streams have a flow rate of between about 5 and", delete "21" and insert -- 25 --. Support for this change appears in application claim 33.

Column 18:

Line 7 (claim 29, line 4), after "about 650 and", delete "850" and insert -- 1250 --. Support for this change appears in application claim 34.

Line 18 (claim 32, line 3), after "other of between about", delete "21" and insert -- 25 --. Support for this change appears in application claim 37.

A fee of $100 is believed to be due for this request. Please charge the required fees to Winston & Strawn LLP Deposit Account No. 50-1814. Please issue a Certificate of Correction in due course.

Respectfully submitted,

1/8/07
Date

Allan A. Fanucci, Reg. No. 30,256

**WINSTON & STRAWN LLP**
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212-294-3311

# UNITED STATES PATENT AND TRADEMARK OFFICE
# CERTIFICATE OF CORRECTION



PATENT NO.: 7,147,131 B2
APPLICATION NO.: 10/727,532
DATED: Dec. 12, 2006
INVENTOR(S): Sher et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 16:
Line 8 (claim 10, line 3), after "between about 7" delete "an" and insert -- and --.

Column 17:
Line 27 (claim 28, line 2), after "fluid streams have a flow rate of between about 5 and", delete "21" and insert -- 25 --.

Column 18:
Line 7 (claim 29, line 4), after "about 650 and", delete "850" and insert -- 1250 --.
Line 18 (claim 32, line 3), after "other of between about", delete "21" and insert -- 25 --.

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depending on the number and type of beverages to be prepared the number of water nozzles and concentrate nozzles may vary and the control unit may be adapted, preferably with the dispensing device providing at least two water jets and one liquid concentrate stream that meet at one common intersection point above a container for collecting prepared beverage. While the shape of the water jets and concentrate streams generated is preferably cylindrical one may envisage in variants using water jets and/or concentrate streams of different shapes such as for example of star, square, triangle, oval, oblong, or other cross-sectional shape. In variant one could also envisage arranging the ejection orifices of the liquid nozzles closer to the vertical axis, than that of the concentrate nozzles, and in another embodiment, the one or more of the concentrate streams can join and be directed together to the intersection location.

What is claimed is:

1. A food product dispenser, comprising:

a water source;

at least two water nozzles;

a flowable food component source;

a food component nozzle; and

a delivery device connecting the water source to the fluid nozzle and the component source to the component nozzle for delivering water and a food component from the respective source to the respective nozzles, wherein the delivery device and nozzles are configured such that the water and component are ejected from the water and component nozzles, respectively, in at least two water and at least one component streams, respectively, which intersect each other at an intersection location at which the streams mix substantially in a state of free fall;

wherein the delivery device and nozzles are configured for ejecting the streams in a configuration such that the streams mix by collision to produce a food product which is directed to a dispensing location; wherein the nozzles comprise ejection orifices, with the ejection orifices of the component nozzle being disposed closer to a substantially vertical axis that extends through the intersection location than the orifices of one or both of the water nozzles to cause mixing with energy sufficient to form a froth on the food product, and wherein the water streams are ejected at a linear velocity which is greater than the linear velocity of the food component stream.

2. The dispenser of claim 1, wherein the streams at the intersection location are unsupported by any solid structure and mix prior to filling a container.

3. The dispenser of claim 1, wherein the fluid stream is a jet, and the streams have reduced speeds downstream of the intersection location.

4. The dispenser of claim 1, further comprising a dispensing bay configured for receiving a container at the dispensing location for receiving the food product therein.

5. The dispenser of claim 1, wherein the food product is a beverage.

6. The dispenser of claim 1, wherein the component is a liquid beverage concentrate.

7. The dispenser of claim 1, wherein the component nozzle is configured for directing the component stream substantially along the substantially vertical axis.

8. The dispenser of claim 1, wherein the first and second streams exiting the orifices form an angle of between about 20 and 60 degrees and provide a high turbulent flow at the intersection location to produce a uniformly mixed product.

9. The dispenser of claim 8, wherein the streams delivered through each fluid nozzle orifice has a flow rate of between about 5 and 25 ml/s and a linear velocity of between about 10 and 2000 cm/s, and the component is a liquid concentrate having a viscosity between about 1 and 5000 cP.

10. The dispenser of claim 9, wherein the streams delivered through each fluid nozzle orifice has a flow rate of between about 7 and 15 ml/s and a linear velocity of between about 650 and 1250 cm/s, and the component is a liquid concentrate having a viscosity between about 300 and 1500 cP.

11. The dispenser of claim 1, wherein the fluid nozzle orifice has a diameter of between about 0.5 to 1.5 mm, and the component nozzle has a diameter of between about 1 and 3.5 mm.

12. The dispenser of claim 1, wherein the fluid nozzles are spaced from the intersection location at a distance of between about 1 and 200 mm.

13. The dispenser of claim 1, wherein the delivery device comprises:

a pump configured for pumping the water from the water source to the water nozzle at a sufficient flow rate for producing the water stream; and

a component pump configured for pumping the component from the component source to the component nozzle at a sufficient flow rate for producing the component stream.

14. The dispenser of claim 13, wherein at least one of the pumps is configured to deliver pulses of the water or component.

15. The dispenser of claim 14, wherein the pumps are peristaltic pumps.

16. The dispenser of claim 13, further comprising a controller associated with the pumps for controlling the flow rates.

17. The dispenser of claim 1, wherein:

the component source comprises a plurality of component sources;

the component nozzle comprises a plurality of component nozzles for dispensing different components from the component sources to the intersection location; and

the delivery device is configured for selectively activating and deactivating the flow from the component nozzles for dispensing a selected combination of one or more of the components to the intersection location depending on the type of food product selected for dispensing.

18. The dispenser of claim 17, further comprising a controller configured for controlling the delivery device for sequentially dispensing the components to the intersection location.

19. The dispenser of claim 17, further comprising a controller configured for controlling the delivery device for substantially simultaneously dispensing the components to the intersection location.

20. The dispenser of claim 1, further comprising a thermal exchange unit configured for heating or cooling the water to be dispensed.

21. A method of preparing a food product, which comprises ejecting at least two streams of water and at least one stream of a food component towards an intersection location substantially immediately after which the streams are substantially in a state of free fall, such that the streams mix by collision and fall into a container to prepare a food product therein, wherein the food component is ejected at a point that is closer to a substantially vertical axis passing through the intersection point than the point or points where one or both of the water streams are ejected to cause mixing with energy

sufficient to form a froth on the food product, and wherein the water streams are ejected at a linear velocity which is greater than the linear velocity of the food component stream.

**22**. The method of claim **21**, wherein the velocity of the streams is reduced downstream of the intersection location.

**23**. The method of claim **21**, wherein the component stream comprises a plurality of component streams directed toward the intersection location, the component streams comprising different components.

**24**. The method of claim **23**, which further comprises:

entering into the dispenser a selection of a type of food product to be dispensed; and

selectively activating and deactivating the different component streams for dispensing a selected combination of one or more of the components to the intersection location depending on the type of food product selected.

**25**. The method of claim **23**, wherein the different components in the combination are dispensed sequentially.

**26**. The method of claim **23**, wherein the different components are dispensed substantially simultaneously.

**27**. The method of claim **21**, wherein the streams are ejected from the dispenser at an angle with respect to each other of between about 1 to 80 degrees.

**28**. The method of claim **21**, wherein the flow rate of the fluid streams have a flow rate of between about 5 and 21 ml/s and a linear velocity of between about 10 and 2000 cm/s, and the component is a liquid concentrate having a viscosity between about 1 and 5000 cP.

**29**. The dispenser of claim **28**, wherein the streams delivered through each fluid nozzle orifice has a flow rate of between about 7 an 15 ml/s and a linear velocity of between about 650 and 850 cm/s, and the component is a liquid concentrate having a viscosity between about 300 and 1500 cP.

**30**. The method of claim **21**, wherein the food product is a beverage.

**31**. The method of claim **21**, wherein the streams are ejected from the dispenser at an angle with respect to each other of between about 20 and 60 degrees.

**32**. The method of claim **21**, wherein the streams are ejected from the dispenser at an angle with respect to each other of between about 21 and 35 degrees.

**33**. The method of claim **21**, wherein the streams are ejected in a manner to form a fan-shaped spray or shower cloud in the direction of the container bottom.

**34**. The dispenser of claim **1**, wherein the ejection orifices eject the streams in a manner to form a fan-shaped spray or shower cloud in the direction of the container bottom.

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